ACCESSION NR: AT4005967 S/2755/63/000/004/0160/0174

AUTHOR: Dashkovskiy, A. I.; Rozanov, A. N.; By*chkov, Yu. F.; Laptev, I. D.

TITLE: Rupture strength and internal friction of SAP alloys and effect of thermal cycles on their properties

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chisty*kh metallov, no. 4, 1963, 160-174

TOPIC TAGS: SAP alloy, SAP-1 alloy, SAP-2 alloy, SAP alloy property, SAP alloy heat resistance, SAP alloy internal friction, SAP alloy bar, SAP alloy sheet

ABSTRACT: The effect of cyclic temperature changes on the properties of SAP-1 and SAP-2 alloys containing Al_2O_3 and Fe and of commercial grade aluminum have been investigated. The average changes in temperature for sheet specimens were 100 degrees per minute during heating and 1000 degrees per second during water quenching. For rod specimens the corresponding values were 60 degrees per minute during heating and 600 degrees per second during hardening. The exposure time at the maximum temperature of the cycle was 10-40 minutes. From 550 C on up cyclic thermal treatment markedly shortened the lengths of the specimens and increased their cross sections at the maximum temperature of the cycle. As a result of

Card 1/2

ACCESSION NR: AT4005967

this treatment, the SAP alloys became increasingly brittle. Also, the rupture strength and ductility decreased. In the temperature interval up to 500 C the properties of the alloys remained stable. The SAP alloy sheet, which was rolled from briquets sintered in a vacuum at 700 C for two hours, showed higher ductility and a lower rupture strength than standard SAP and did not develop blisters even during thermal treatment up to 600 C. SAP-1 of the standard type has a higher heat resistance than other alloys. The prolonged stress rupture strength (up to 100 hours) was determined to be 5.5-7.5 kg/mm^2 at 375 C and 4.0-6.5 kg/mm^2 at 450 C. SAP-1 with a fine grain structure in the unrecrystallized state shows maximal internal friction. The location on the temperature curve depends on the size of the grain and the content of the secondary, finely dispersed, phase of Al_2O_3 in the aluminum. Orig. art. has: 4 tables and 9 figures.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Institute of Engineering Physics)

SUBMITTED: 00 DATE ACQ: 17Jan64 ENCL: 00

SUB CODE: MA, ML NO REF SOV: 006 OTHER: 002

Card 2/2

BYCHKOV, Yu. F.; USHAKOV, G. N.; SERGEYEV, Yu. A.

"Portable atomic power station."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

L 40013-65 EWG(j)/EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EWA(d)/EPR/EWP(j)/EWP(t)/
EWP(z)/EWP(b) Pc-4/Pr-4/Ps-4/Pu-4 IJP(c) RM/WW/MJW/JD/JG/WB/GS
ACCESSION NR: AT5007906 S/0000/64/000/000/0151/0163

AUTHOR: Bychkov, Yu. F.; Laptev, I. D.; Rozanov, A. N.

TITLE: The corrosive effect of biphenyl on metals and oxides 18

SOURCE: Moscow. Institut atomnoy energii. Issledovaniya po primeneniyu organicheskikh teplonositeley-zamedliteleyv energeticheskikh reaktorakh (Research on the use of organic heat-transfer agents and moderators in power reactors). Moscow, Atomizdat, 1964, 151-163

TOPIC TAGS: organic reactor coolant, uranium, power reactor, thermal reactor, nuclear power plant, heat transfer agent, biphenyl, reactor corrosion, uranium alloy, aluminum alloy, molybdenum alloy, hydride corrosion 18 27 27 27

19 ABSTRACT: The authors investigated the transformations which can occur with reactor materials exposed to biphenyl and evaluated the effect of such factors as the presence of admixtures and the degree of pyrolytic decomposition. The hydride mechanism of corrosion was investigated first with respect to uranium and its alloys with molybdenum. The corrosion tests with biphenyl were carried out in containers made of 1Kh18N9T stainless steel. After evacuating the containers with the specimens, they were pressurized in an arc furnace in an atmosphere of pure argon. The changes undergone by a variety of metals, alloys and oxides are

Card 1/2

L 40013-65

ACCESSION NR: AT5007906

tabulated. The authors also investigated the effect of admixtures of water (0.0004-0.7 wt.%) and sulfur (1-3 wt.%) to biphenyl on its corrosive properties. The results indicate that metals and oxides are subject to the following types of transformations in biphenyl: reduction of oxides and hydroxides to the metal or another oxide; formation of hydrides; formation of carbides [illegible] mixture of water to biphenyl in amounts greater than 0.2% was shown to hasten the corrosive failure of aluminum AD-1 and SAP-1 alloy and lead to intercrystalline corrosion, as well as embrittling and lowering the strength [illegible] corrosion was also accelerated by sulfur. Admixtures of water [illegible] alloy as much as aluminum AD-1. Orig. art. has: 7 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 01Aug64 ENCL: 00 SUB CODE: NP

NO REF SOV: 001 OTHER: 003

Card 2/2

ACCESSION NR: AP4041044 S/0120/64/000/003/0170/0171

AUTHOR: By*chkov, Yu. F.; Goncharov, I. N.; Kuz'min, V. I.; Khukhareva, I. S.

TITLE: Effect of heat treatment on the properties of superconductive zirconium-niobium alloys

SOURCE: Pribory* i tekhnika eksperimenta, no. 3, 1964, 170-171

TOPIC TAGS: zirconium niobium alloy, alloy superconductivity, alloy critical current density, superconducting alloy, alloy critical temperature

ABSTRACT: The effect of heat treatment on the critical temperature (T_K) and critical current density (j_K) of niobium-zirconium alloys containing 65—80% Zr was investigated. The alloy specimens were melted from iodide zirconium and electron beam refined niobium in an arc furnace in an argon atmosphere. After rolling from 5 to 1 mm, the specimens were annealed and rolled to 0.03—0.04 mm. The critical current density was measured at 4.2K in a magnetic field parallel to the rolling plane and perpendicular to the current direction. The

Card 1/4

ACCESSION NR: AP4041044

dependance of T_K and j_K on annealing temperature in the 27-oe field is shown in Fig. 1 of the Enclosure. An increase in j_K after annealing at 400—500C was caused by a change in the structure of the ß-phase or precipitation of the metastable ω-phase. The x-ray diffraction patterns revealed three phases on the specimen surface: an initial ß-phase with 80% Zr, α-Zr, and a small quantity of ß-phase with 15% Zr. At a depth of 0.05 mm, the α-phase and Nb ß-phase with 15% Zr disappeared. Thus in the formation of new phases, an initial stage of recrystallization occurs only in a thin surface layer. Prolonged annealing at 570C raises the T_K, but lowers the j_K (see Fig. 2). Orig. art. has: 2 figures.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research).

SUBMITTED: 12Jun63 ATD PRESS: 3076 ENCL: 02

SUB CODE: MM NO REF SOV: 001 OTHER: 003

Card 2/4

ACCESSION NR: AP4041044

ENCLOSURE: 01

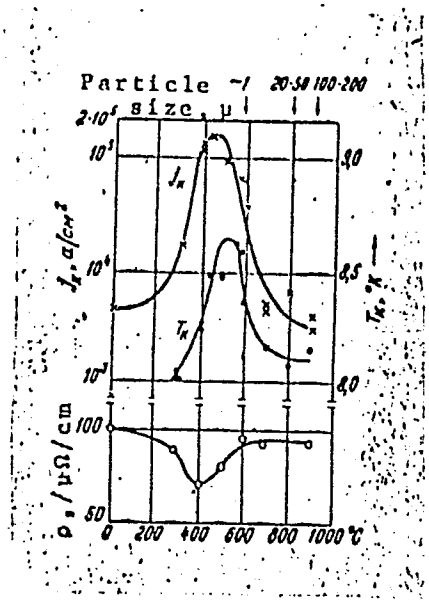


Fig. 1. Dependance of j_K and T_K on annealing temperature (annealing time 1 hr) for Nb + 80% Zr alloy (magnetic field 27 oe)

Card 3/4

ACCESSION NR: AP4041044

ENCLOSURE: 02

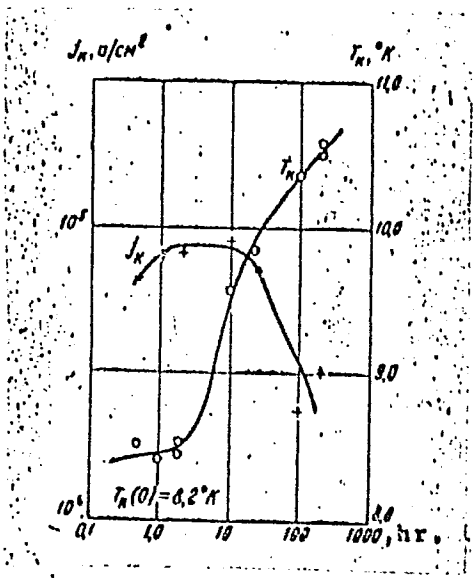


Fig. 2. Dependance of j_K and T_K on annealing time at 570C Nb + 80% Zr alloy (magnetic field 27 oe)

Card 4/4

BYCHKOV, Yu.F.; GONCHAROV, I.N.; KUZ'MIN, V.I.; KHUKHAREVA, I.S.

Effect of thermal treatment on the properties of superconducting alloys of Nb + Zr on a Zr base. Prib. i tekh. eksp. 9 no.3: 170-171 My-Je '64 (MIRA 18:1)

1. Ob"yedinennyy institut yadernykh issledovaniy.

ACCESSION NR: AP4034053 S/0126/64/017/004/0547/0553

AUTHORS: By*chkov, Yu. F.; Ivanov, V. A.; Rozanov, A. N.

TITLE: Reversibility of $\beta \rightarrow \omega$ transition in Zr-16% Nb alloy

SOURCE: Fizika metallov i metallovedeniye, v. 17, no. 4, 1964, 547-553

TOPIC TAGS: zirconium alloy, niobium alloy, beta phase decomposition, zirconium iodide, arc furnace, primary annealing, modulus of elasticity, solid solution, arc furnace MIFI 93, MPShchPR 54

ABSTRACT: Conditions generating the reaction $\omega \rightarrow \beta$ in zirconium alloys were investigated. A 16% niobium alloy was used on which the kinetics of an isothermal β-phase decomposition at 300-600C was studied by measuring the hardness and electric resistivity of the specimen and by looking at its structure. Zr-16% Nb ingots weighing 25 to 70 g were prepared from 99.8% pure iodide zirconium in an arc furnace MIFI-9-3 under argon. Furnace temperatures were regulated by MPShchPR-54. The specimens were sealed in evacuated quartz vials, annealed for 3 hours at 900 C, and quenched in cold water. To study the $\omega \rightarrow \beta$ transition, property changes in the alloy were determined by several sets of heat treatments.

Card 1/2

ACCESSION NR: AP4034053

The primary annealing was in the temperature range 240 to 450C and the secondary one at 475-575C. A graph of specimen hardness versus annealing time shows a minimum hardness in each of the curves, decreasing in value by increasing the secondary tempering temperature. No sharp boundary was observed between temperature regions of direct and reverse $\beta \rightarrow \omega$ transitions. The modulus of elasticity E and the electrical resistivity ρ were also plotted as functions of secondary annealing time at 550C. The solution of the ω-phase in the β-phase during the secondary annealing process was found to cause an increase in ρ and a decrease in E. Precipitation of the ω-phase formed during the early stages of the Zr-16% Nb β-solid-solution decomposition in the 240-300C primary annealing process is believed to be transferred to the β-solid solution during the secondary short-duration annealing process at 550-575C. Orig. art. has: 4 figures.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Institute of Engineering Physics)

SUBMITTED: 21Feb63 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 003

Card 2/2

L 43903-65 EPF(n)-2/EWP(z)/EWT(l)/EWT(m)/EWP(b)/EWA(d)/EWP(t) Pu-4 IJP(c) WW/
JD/JG

ACCESSION NR: AP5008738 S/0056/65/048/003/0818/0824

AUTHOR: Rychkov, Yu. F.; Goncharov, I. N.; Khukhareva, I. S.

TITLE: Effect of the structural state on the superconducting properties of zirconium alloys containing 20-25% niobium

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 3, 1965, 818-824

TOPIC TAGS: superconductivity, zirconium base alloy, niobium containing alloy, metal physical property

ABSTRACT: A detailed study was made of the effect which the structural state of an alloy has on its superconducting and mechanical properties. The following properties were measured: electrical resistance, critical temperature, critical current density as a function of the orientation of the magnetic field relative to the plane of rolling, tensile strength, hardness, relative elongation, and annealing temperature (1 hour). The most interesting properties were observed in the two-phase or metastable ω-phase region (high critical current densities, in the latter case, current anisotropy is also nearly complete), which can be qualitatively explained on the basis of Anderson's theory

Card 1/2

L 43203-65

ACCESSION NR: AP5008738

Rev. Lett., 9, 309, 1962; P. W. Anderson, Y. B. Kim, Rev. Mod. Phys., 36, 39, 1964). It is shown that the critical current density may increase even when the number of dislocations or vacancies decreases if there are other current [illegible] mechanisms. A relationship is found between variation in the [illegible] and dissolution of a β-solid solution during annealing. [illegible] and 1 table.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 15Oct64 ENCL: 00 SUB CODE: MM, SS

NO REF SOV: 006 OTHER: 009 ATD PRESS: 3242

Superconductor alloy

Card 2/2

ACC NR: AT6014748 SOURCE CODE: UR/0000/65/000/000/0044/0052

AUTHORS: Bychkov, Yu. F.; Goncharov, I. N.; Khukhareva, I. S.

ORG: none

TITLE: The effect of the structural state on the superconducting properties of zirconium alloys with 20--25% Nb

SOURCE: Soveshchaniye po metallovedeniyu i metallofizike sverkhprovodnikov. 1st, 1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics of metals in superconductors); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 44-52

TOPIC TAGS: superconductivity, superconducting alloy, zirconium base alloy, niobium containing alloy, shear modulus, internal friction, resistivity, tensile strength, hardness, magnetic field

ABSTRACT: The results of a study of the effect of various metallurgical factors on the superconducting properties of zirconium alloys containing 15--25% niobium are given. In order to determine the structural changes that occur during the tempering of cold-worked alloys, the shear modulus G, internal friction Q^{-1}, resistivity ρ, the critical temperature of the superconducting transition T_k, tensile strength σ_B, hardness HV, and relative elongation δ were measured. The ingots were smelted in an arc furnace in an argon atmosphere. The starting materials were zirconium iodide and

refined niobium. Ribbons with a thickness of 0.25 mm and wires with a diameter of 0.25 mm were prepared. The most important consequences of intermediate tempering of alloys with 20--25% Nb at 400-550C are a sharp increase in J_k, a comparatively weak dependence of J_k upon the applied magnetic field, and an almost complete absence of anisotropy of the critical current density in the region of separation of the ω-phase (see Fig. 1). Annealing at 400--500C reduces the number of point and line flaws. The value of T_k for alloys with 5--35% Nb was determined by the change in the magnetic moment. The dependence of T_k upon the temperature of one-hour tempering was also studied (see Fig. 2). The authors thank V. Ya. Fil'kin for the wire samples, A. P. Korostelev for producing the apparatus, and V. F. Chumakov for help with the measurements.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307830003-7"

L 38545-66

ACC NR: AT6014748

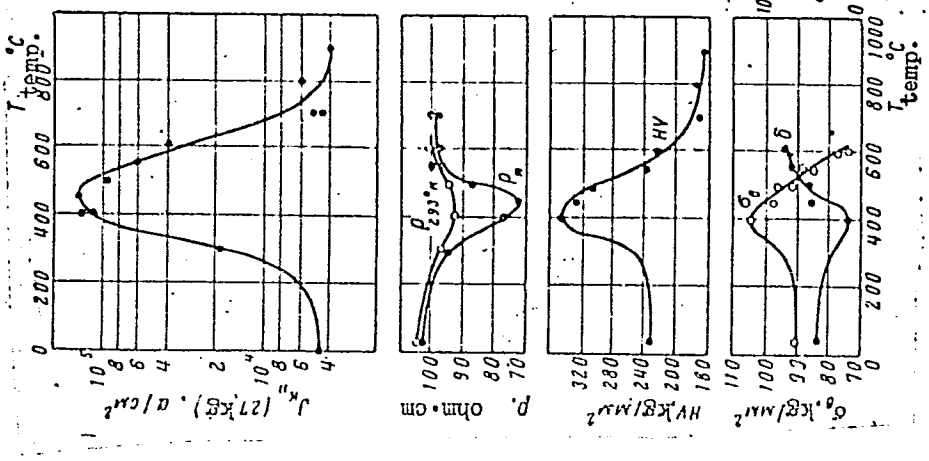


Fig. 1. Physical properties of Zr alloy with 20% Nb. J_K and ρ after intermediate tempering with subsequent cold working by 95%; σ_B, δ, and HV in stage of intermediate tempering (without subsequent deformation) as function of tempering temperature for one hr.

Card 3/4

L 38545-66

ACC NR: AT6014748

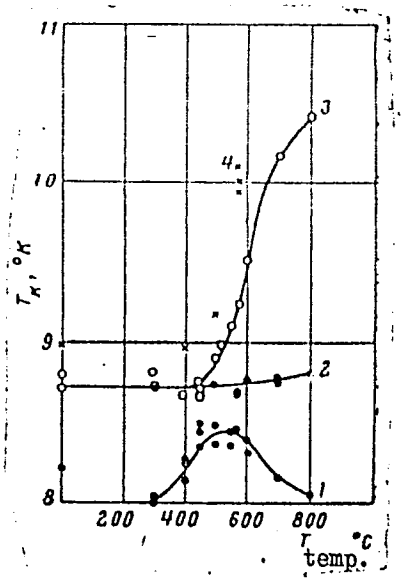


Fig. 2. T_K as function of temperature of one-hour tempering: 1, 2 - intermediate tempering (strip, for 20% Nb and 25% Nb, respectively); 3 - final tempering (wire, 25% Nb); 4 - intermediate tempering on diameter of 0.5 mm with subsequent deformation to diameter of 0.25 mm (wire from another batch, 25% Nb).

Orig. art. has: 1 table and 5 graphs.

SUB CODE: 11, 20/ SUBM DATE: 23Dec65/ ORIG REF: 010/ OTH REF: 013

Card 4/4 ell

L 36868-66 EWT(m)/EWP(k)/EWP(t)/ETI IJP(c) WW/JD/JG

ACC NR: AT6023736 (A) SOURCE CODE: UR/2755/66/000/005/0044/0050

AUTHOR: Bychkov, Yu. F.; Goncharov, I. N.; Khukhareva, I. S.

ORG: none

TITLE: Effect of oxygen additions on the structure and superconducting properties of Zr-Nb alloys

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov, no. 5, 1966, 44-50

TOPIC TAGS: zirconium alloy, niobium containing alloy, oxygen containing alloy, superconducting alloy, alloy structure, alloy hardness, ~~alloy superconductivity~~, CURRENT DENSITY, OXYGEN

ABSTRACT: An investigation has been made of the effect of oxygen additions on the critical current density (j_c) in Zr-Nb alloys, and on the β-solid solution decomposition which changes the magnitude of j_c. Electron-beam melted zirconium alloys containing 33 wt% Nb and 0.02—0.04 wt% O_2 were preforged at 800—900C and cold rolled into a strip 1 mm thick which was annealed at 900—950C, in oxygen, homogenized in vacuum at 1300C for 1.5 hr, and cold rolled to a thickness of 0.5 mm with process annealing at 500, 570 or 700C for 1 hr, and then cold rolled into 0.05 mm foil without process annealing. The oxygen content in the foil varied from 0 to 1.0%. The critical current density (j_c) was measured in a magnetic field with an intensity, H,

Card 1/2

L 36868-66
ACC NR: AT6023736

of up to 27 oe parallel to the direction of rolling. It was found that alloying with up to 0.04 wt% O_2 had practically no effect on the magnitude of j_c; the dependence of j_c on H was the same as for alloys without oxygen. With oxygen content increasing from 0.1 to 0.25 wt%, the magnitude of j_c in specimens rolled without process annealing more than doubled and reached 4×10^4 a/cm^2 in a field of 27 oe. The effect of oxygen was even more pronounced in foil rolled with process annealing, in which case the j_c of specimens containing 0.25% oxygen and annealed at 700C reached 1.5×10^5 amp/cm^2. Thus, the j_c of Zr-base alloys can be significantly increased by alloying oxygen especially when cold deformation is followed by process annealing. Additions of oxygen substantially increased the hardness of alloys, although the hardness remains lower than that of niobium and niobium-base alloys. It appears that alloys with 25—35% Nb permit larger oxygen additions than the Nb-base alloys because of a smaller effect of oxygen on their ductility. The hardness of an alloy containing 33% Nb and 0.25% oxygen remained practically unchanged with annealing at 700C, but decreased by 20 units in an alloy containing 26% Nb and 0.04% oxygen. Oxygen additions also caused separation of the β-solid solution into two solid solutions with a different concentration of the α-phase. The higher j_c in oxygen-rich alloys can be explained by the presence of finely dispersed inclusions with poor superconducting properties in the superconducting matrix, in particular, α-Zr inclusions with $T_c = 0.6$K which stabilize magnetic flux lines. Orig. art. has: 4 figures and 1 table. [MS]

SUB CODE: 11, 09/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 008/ ATD PRESS: 5040

superconducting alloy

Card 2/2 mlp

L 09506-67 EWT(m)/EWP(w)/EWP(j)/EWP(t)/ETI IJP(c) JD/WB/RM

ACC NR: AT6023744 SOURCE CODE: UR/2755/66/000/005/0199/0203

AUTHOR: Bychkov, Yu. F.; Laptev, I. D.; Rozanov, A. N.

ORG: none

TITLE: Unit for dynamic tests of metals and alloys in organic heat transfer media at high pressures and temperatures

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov, no. 5, 1966, 199-203

TOPIC TAGS: corrosion rate, heat transfer fluid

ABSTRACT: The article gives details of a unit permitting corrosion tests of metals and alloys in organic heat transfer media at temperatures up to 400-450°C, pressures up to 50 atm, and calculated velocities from 1.4 to 5.7 meters/sec. (See Fig. 1)

Card 1/3

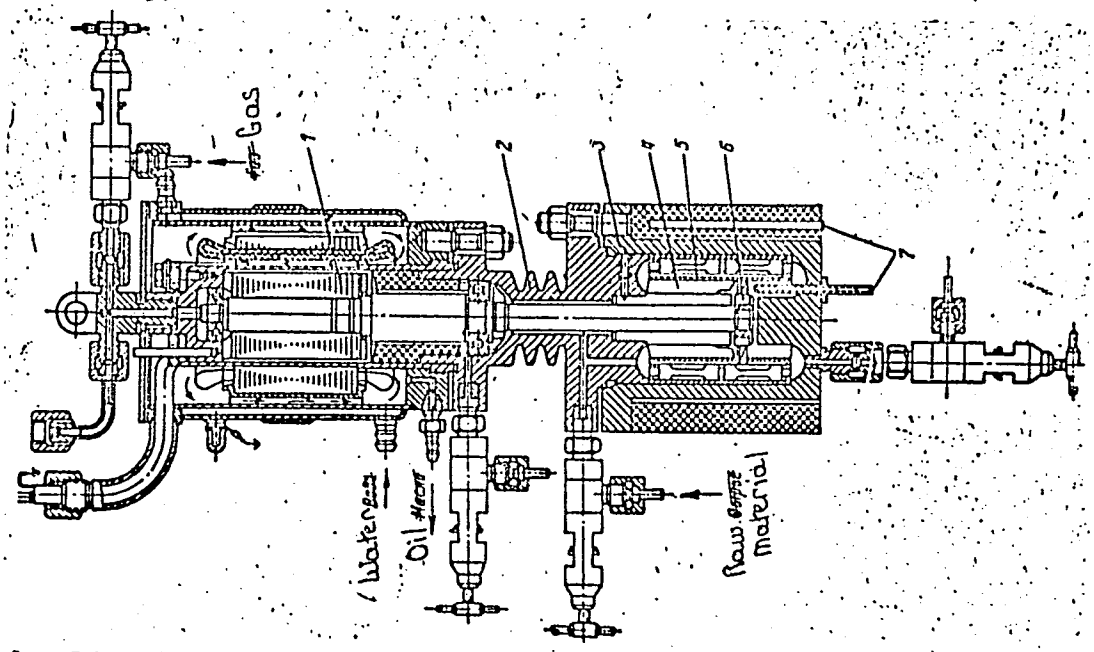


Fig. 1. Scheme of a unit for dynamic tests of metals and alloys in organic heat transfer media at high pressures and temperatures: 1—drive; 2—throat; 3—autoclave; 4—directional apparatus; 5—cell; 6—screw; 7— thermocouple housing

Card 2/3

L 09506-67
ACC NR: AT6023744

The unit pictured has been used successfully under the following experimental conditions: temperature--320°C; pressure 8 atm; organic heat transfer medium--monoisopropyldiphenyl with 0.1% water; duration of operation--500 hours. Orig. art. has: 4 figures.

SUB CODE: 11, 20/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001

Card 3/3 LC

BY:[illegible], Yu.G.; KUKARIN, A.F.

Some problems in the development of the woodworking industry in the Altai Territory. Izv. Alt. otd. Geog. ob-va SSSR no.5: 197-199 '65. (MIRA 18:9)

1. Barnaulskiy gosudarstvennyy universitet.

BYCHKOV, Yu.I.

Organization and functioning of interschool workshops. Politekh. obuch. no.7:9-14 Jl '59. (MIRA 12:9)

1.Udmurtskiy institut usovershenstvovaniya uchiteley.
(Udmurt A.S.S.R--Vocational education)

ACCESSION NR: AP5010118 UR/0109/65/010/004/0780/0782

AUTHOR: Mesyats, G. A.; Vorob'yev, P. A.; Bychkov, Yu. I.

TITLE: Using gas microgaps in high-voltage nanosecond impulse devices

SOURCE: Radiotekhnika i elektronika, v. 10, no. 4, 1965, 780-782

TOPIC TAGS: gas microgap, microgap, hv impulse, hv peaker, hv switch

ABSTRACT: Many microgaps connected in series and placed in gas can be used for h-v nanosecond switch or peaker purposes. By using P. R. Howard's formula for voltage across two adjacent electrodes (Proc. IEE, 1952, pt. 2, v. 99, no. 70, 371) and experimental data obtained by the authors, it is shown that the gas microgaps can operate within a fairly wide range of working voltages. Orig. art. has: 2 figures, 2 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 22May64 ENCL: 00 SUB CODE: EC

NO REF SOV: 005 OTHER: 001

Card 1/1

BYCHKOV, Yu.M.

Monotis salinaria Schlotheim in the northeastern U.S.S.R. and taxonomy problems of Monotis. Uch. zap. NIIGA. Ser. "Paleont. i biostr." no.6:75-83 '64. (MIRA 18:12)

BYCHKOV, Yu.V. (Moskva)

Problem of the rolling of a solid body on a fixed surface. Inzh. zhur. (MIRA 18:10)
5 no.5:803-811 '65.

BYCHKOV, Yu.V., inzh.

Concerning D.S. Velikoliud's article "Boiler frameworks and the supporting structures of boiler rooms." Elek. sta. 34 no.5:88-89 My '63. (MIRA 16:7)

(Boilers)

BYCHKOV, Yu.V., inzh.; SHAKH, A.S.

Design of precast reinforced concrete structures for industrial electric power plants. Energ. stroi. no.1:19-22 '65. (MIRA 18:7)

KHIMUNIN, S.D., kand. tekhn. nauk; SHARLYGINA, K.A., ml. nauchn. sotr.; VOLCHKOVA, A.T., st. inzh.; Prinimali uchastiye: POPOVA, N.V., inzh.; BYCHKOVA, A.A., inzh.; SKARBOVICHUK, T.G., inzh.; VIYRA, I.I., arkhitektor; SHEYNA, T.M., st. tekhnik

[Recommendations on redesigning and improving the living conditions of apartment houses of old towns] Rekomendatsii po pereplanirovke i povysheniiu blagoustroistva zhilykh domov staroi zastroiki gorodov. Leningrad, Stroiizdat, 1965. 131 p. (MIRA 18:8)

1. Akademiya kommunal'nogo khozyaystva. Leningradskiy nauchno-issledovatel'skiy institut. 2. Rukovoditel' laboratorii kapital'nogo remonta zhilykh domov Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva im. K.D.Pamfilova (for Khimunin).

S/081/60/000/020/003/014
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 20, p. 83, # 80426

AUTHORS: Korol'kov, A.M., Bychkova, A.A.

TITLE: Surface Tension of Metals and Alloys

PERIODICAL: V sb.: Issled. splavov tsvetn. metallov, 2. Moscow, AN SSSR, 1960, pp. 122-134

TEXT: The method of maximum pressure in an Ar vial was used to measure with an accuracy of 2-3% the σ-values of a series of pure (99.99% for Al and Sb) non-ferrous metals at a temperature elevated by 50-60°C beyond the melting point. The results obtained are: Al 860, Bi 380, Ga 725, Mg 515, Sn 526, Fe 410, Sb 395 and Zn 750 dyne/cm. The σ-composition dependence was studied for a series of binary and ternary Al- and Zn-base alloys.

S.Z.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

SKAVINSKIY, Yu.V.; ZAKHAROV, N.I.; BYCHKOVA, A.I.; KUZNETSOV, V.G.

Toxoplasmosis in the Far North. Toxoplasmosis in Taymyr National Area of Krasnoyarsk Territory. Trudy TSIU 80:30-32 '65. (MIRA 18:11)

SHKREBKO, I.Ye., kand.ekonom.nauk, dotsent; Prinimali uchastiye: BYCHKOVA, A.P., inzh.; VOYEVODIN, M.A., inzh.; KAZANTSEV, S.A., inzh.; KONDAKOVA, A.A., inzh.; NEVOLINA, R.A., inzh.; CHARNYY, [redacted], inzh.

Studying main trends in the mechanization of production at the Krasnoural'sk Copper Smelting Combine. Trudy Ural. politekh. inst. no.120:23-32 '61. (MIRA 16:6)
(Krasnoural'sk--Copper industry--Technological innovations)

GUSEV, V.Ye.; BYCHKOVA, A.V.

Preparing for the Third Congres of the Scientific and Technical Society of the Light Industry. Tekst.prom. 23 no.11:9-12 N '63. (MIRA 17:1)

1. Predsedatel' TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva legkoy promyshlennosti (for Gusev). 2. Zamestitel' predsedatelya TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva legkoy promyshlennosti (for Buchkova).

BYCHKOVA, A.V.

Results of the public inspection of the introduction of new techniques and equipment. Tekst. prom. 23 no.6:5-7 Je '63. (MIRA 16:7)

1. Zamestitel' predsedatelya TSentral'nogo pravleniya nauchno-tekhnicheskogo obshchestva legkoy promyshlennosti.
(Technological innovations)

BYCHKOVA, A.V. (Moskva)

Third Congress of the Scientific and Technical Society of the Light Industry. Shvein.prom. no.1:38-40 Ja-F '64. (MIRA 17:3)

BYCHKOVA, F.F., klinicheskiy ordinator

Comparative evaluation of various methods of treating schizophrenia. Trudy Izhev.gos.med.inst. 13:449-457 '51. (MIRA 13:2)

1. Kafedra psikhiatrii Izhevskogo medinstituta. Zaveduyushchiy kafedroy - prof. A.L. Leshchinskiy.
(SCHIZOPHRENIA)

MURZALIYEVA, Kh.Ye., zasl. deyatel' nauki, doktor med. nauk, prof.;
KUSAINOVA, G.K., kand. med. nauk; YEGOROV, Yu., red.;
BYCHKOVA, E., red.

[Pregnancy and infectious hepatitis (Botkin's disease)] Beremennost' i infektsionnyj gepatit (bolezn' Botkina). Alma-Ata, "Kazakhstan" 1965. 177 p. (MIRA 18:12)

IBAN'YES, F.F.; LIBERMAN, V.B.; BUNINA, T.S.; KATS, A.M., red.; BYCHKOVA, G.I., red.

[Experience in the operation of the EV80-3 electronic computer for calculating planning norms in serial production] Opyt primeneniia elektronnogo vychislitelia EV80-3 dlia normativno-planovykh raschetov v seriinom proizvodstve. Moskva, Statistika, 1964. 86 p. (MIRA 18:4)

KOROSTELEVA, O.I.; PYASKOVSKIY, S.V.; BYCHKOVA, G.I., red.

[Annotated bibliography of the literature on machine accounting and computing work for 1954-1963] Bibliograficheskii annotirovannyi ukazatel' literatury po mekhanizatsii ucheta i vychislitel'nykh rabot (za 1954-1963 gg.) Moskva, Statistika, 1965. 271 p. (MIRA 18:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye vychislitel'nykh rabot.

ALFEROVA, Zoya Vasil'yevna; VOLOVICH, Mikhail Avramnakhimovich; BYCHKOVA, G.I., red.

[Sorting of information using electronic computers] Sortirovka informatsii s pomoshch'iu elektronnykh vychislitel'nykh mashin. Moskva, Statistika, 1965. 118 p.
(MIRA 18:7)

SAVINKOV, Vladimir Makarovich; BYCHKOVA, G.I., red.

[Programming for the electronic digital computer "Minsk-2"] Programmirovanie dlia ETsVM "MINSK-2." Moskva, Statistika, 1965. 168 p. (MIRA 18:11)

YATSUK, K.P.; BYCHKOVA, G.N.

Application of resonance delaying systems for measuring the dielectric permeability of a substance at superhigh frequencies. Zhur.tekh.fiz. 30 no.2:165-167 F '60. (MIRA 14:8)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M.Gor'kogo.
(Dielectric constants) (Electric resonators)

MOISEYEV, S., inzh.po tekhnike bezopasnosti; KALINOVSKIY, P., mekhanik; SHALOMOV, B., yuriskonsul't; TALANOVA, N., inzh.po tekhnike bezopasnosti; BYCHKOVA, I., inzh.; VORONOV, A., elektrik; SOKOLENKO, N.; KUTUZOV, P.; TOPYRIK, P., pensioner; FEDYUKOV, G., inzh.po tekhnike bezopasnosti; CHECHETKIN, A.; KLIMENT'YEVA, Ye.

Those, who serve us. Okhr. truda i sots. strakh. 3 no.7:52-53 Jl '60. (MIRA 13:8)

1. Reydovaya brigada. 2. Moskhladokombinat imeni Mikoyana (for Moiseyev). 3. Upravleniye Mosgorplodoovoshch (for Kalinovskiy). 4. TSentral'nyy universal'nyy magazin Voyentorga (for Shalomov). 5. Gosudarstvennyy universal'nyy magazin, Moskva (for Talantova). 6. Obshchestvennyy inspektor okhrany truda Mostorgstroya (for Bychkova). 7. Obshchestvennyy inspektor okhrany truda Mosrybokombinata (for Voronov). 8. Pravovoy inspektor Moskovskogo gorodskogo soveta profsoyuzov (for Sokolenko). 9. Obshchestvennyy inspektor okhrany truda kholodil'nika No.1, Moskva (for Kutuzov). 10. Moskovskiy rybokombinat (for Fedyukov). 11. Korrespondent gazety "Sovetskaya torgovlya" (for Chechetkin). 12. Zaveduyushchaya otdelom profsoyuznoy zhizni gazety "Sovetskaya torgovlya" (for Kliment'yeva). 13. Spetsial'nyy korrespondent zhurnala "Okhrana truda i sotsial'noye strakhovaniye" (for Gromov).

(Warehouses--Safety measures)
(Retail trade--Safety measures)

GAMBETSKAYA, V.I. [Hambets'ka, V.I.]; POLTAVETS, L.M. [Poltavets', L.M.]; BYCHKOVA, I.I.

Processing of No.150 acetate yarn in the production of warp-knit goods. Leh.prom. no.2:17-19 Ap-Je '65.

(MIRA 18:10)

ARBITAN, A.A.; BYCHKOVA, I.I.; GORDIYENKO, M.G. [Hordiienko, M.H.]; KUCHER, I.E.

Interfacing fabrics for the collars and cuffs of men's shirts made from synthetic materials. Leh.prom. no.1:9-10 Ja-Mr '64. (MIRA 19:1)

BYCHKOVA, I.S., yurist; BYCHKOV, I.Ya., dotsent

Legal work standards for nonprofessional medical employees in shift work. Fel'd. i akush. 22 no.5:52-56 My '57. (MLRA 10:6)
(MEDICAL PERSONNEL)

BYCHKOVA, I.S., yurist; BYCHKOV, I.Ya.

Pensions provided for nonprofessional medical workers. Fel'd. i akush. 22 no.8:58-61 Ag '57. (MIRA 10:12)
(MEDICAL PERSONNEL--PENSIONS)

BYCHKOVA, I.S. yurist; BYCHKOV, I.Ya., dots. (Moskva).

Rural pharmacy. Fel'd. i akush. 22 no.9:50 S'57 (MIRA 11:10)
(PHARMACY)

BYCHKOVA, I.S., yurist, BYCHKOV, I.Ya., dots.

Keeping records of pay time for nurses in hospitals operating on shifts. Med.sestra 17 no.9:41-44 S'58 (MIRA 11:10)
(HOSPITALS--ACCOUNTING)
(NURSES AND NURSING)

BYCHKOVA, I.S., yurist; BYCHKOV, I.Ya., dotsent

Legal problems in the work of a rural feldsher. Fel'd. i akush. 23 no.3:55-57 Mr '58. (MIRA 11:4)
(PUBLIC HEALTH, RURAL)

BYCHKOVA, I.S., yurist., BYCHKOV, I.Ya., dots.

Additional monthly pay allowances of 15 to 30 per cent for semi-professional medical personnel. Fel'd. i akush. 23 no.12:47-51 D'58 (MIRA 11:12)

(MEDICAL PERSONNEL)
(WAGES)

BYCHKOVA, I.S., yurist., BYCHKOV, I.Ya., dots.

Laws for the protection of the nonprofessional medical staff.
Fel'd. i akush. 24, no.1:53-57 Ja '59 (MIRA 12:1)
(MEDICAL PERSONNEL--DISEASES AND HYGIENE)

BYCHKOVA, I.S.; BYCHKOV, I.Ya.,dots. (Moskva)

The feldsher station in the industrial enterprise. Fel'd i akush. 24 no.4:31-34 Ap '59. (MIRA 12:5)
(MEDICINE, INDUSTRIAL)

BYCHKOVA, I.S., yurist; BYCHKOV, I.Ya., dots.

Feldsher-midwife center in the village; legal questions regarding its activities. Fel'd. i akush. 24 no.5:51-54 My '59. (MIRA 12:8)
(PUBLIC HEALTH, RURAL) (MEDICAL PERSONNEL)

BYCHKOVA, I.S., yurist; BYCHKOV, I.Ya., dots.

The feldsher-midwife station in the village; legal problems in its operation. Fel'd. i akush. 24 no.6:52-56 Je '59. (MIRA 12:8)

(PUBLIC HEALTH, RURAL)

BYCHKOVA, I.S., yurist

Nurses' duties at sanatoriums and health resorts. Med. sestra 19 no.5:42-44 My '60. (MIRA 13:9)
(NURSES AND NURSING) (SANATORIUMS)

BYCHKOVA, I.S., yurist

Legal consultation. Med. sestra 20 no.7:54-55 Jl '61. (MIRA 14:10)

(MEDICAL PERSONNEL—PENSIONS)

24.2120

77309
SOV/57-30-2-6/18

AUTHORS: Yatsuk, K. P., and Bychkova, G. N.

TITLE: Application of Resonant Delay Systems for Dielectric Permittivity Measurements at Ultra High Frequencies

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol 30, Nr 2, pp 165-167 (USSR)

ABSTRACT: As it was shown by Vladimirskiy (DAN SSSR, 52, 219, 1946), resonators obtained from sections of delay lines containing diaphragms (see Fig. 1) have field intensities decreasing when going toward the center along radial directions. Putting a dielectric specimen in the region of weak intensities modifies the properties of the system less than when located in the regions of strong intensities. The system may be, therefore, used for measurements of dielectric permittivity of materials producing significant losses. The authors noted that one can develop a simple equation for the relative frequency change $\Delta f/f$ for the case where the dielectric sample of small cross section is located along the axis of the system. Only the

Card 1/6

longitudinal component is then different from zero, and since then $E = E_{zo}$, we have

$$\frac{\Delta f}{f} = \frac{\varepsilon_0(\varepsilon - 1)v}{8} \frac{|E_{zo}|^2}{w}$$

where ε_0, ε - dielectric permittivity of the free space and the perturbing body, respectively; v - volume of the perturbing body; w - total energy stored in the resonator. The quantity $\frac{E_{zo}^2}{W}$, proportional to the coupling resistance, is fully determined by the geometry and frequency. It could, therefore, be either measured or computed, and Eq. (2) would then yield the dielectric permittivity. Experimentally one can measure the variation of frequency Δf_1 of a specimen of known permittivity ε_1; then the unknown permittivity ε_x is given by

Card 2/6

$$\varepsilon_x = \frac{\Delta f_x}{\Delta f_1}(\varepsilon_1 - 1) + 1$$

Application of Resonant Delay Systems for
Dielectric Permittivity Measurements in
Ultra High Frequencies

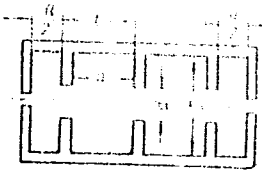
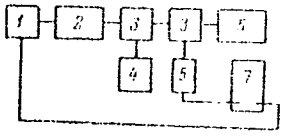


Fig. 1.

Tests were performed using waves in the centimeter range. The dimensions of the resonator on Fig. 1 were: D = 4 cm, L = 2.0 cm, d = 3.4 cm and the diaphragm thickness l = 0.6 cm. The device resonated at f_1 = 2785 Mc, f_2 = 2750 Mc, f_3 = 2676 Mc, and f_4 = 2638 Mc, with respective phase-displacement per cell $\varphi_1 = \pi$, $\varphi_2 = 2/3\pi$, $\varphi_3 = 1/3\pi$, and $\varphi_4 = 0$. Maximum field intensity was,

Card 3/6

consequently, for γ [illegible] for γ = π . The block diagram of the measuring device is on Fig. 2.



1 is the modulator of the saw-like potential; 2 - klystron generator; 3 - coaxial branch boxes; 4 - wavemeter VST-10; 5 - measuring resonator; 6 - detector; 7 - oscillograph. The authors investigated liquid dielectrics placed in glass capillaries with a 1 mm inner diameter and wall thickness of 0.05 mm. Distilled water was used as standard. They mixed carefully purified dioxane with water, and results obtained are given in table.

Application of Resonant Delay Systems for Dielectric Permittivity Measurements at Ultra High Frequencies

77309
SOV/57-30-2-6/18

Table. (a) ϵ comp; (b) ϵ exper.

(a)	(b)	(a)	(b)
23.5	22.6	51.5	50.4
48.3	46.6	63	65
50.22	50		

Computed values were obrained following Akerlof and Short (see reference). The authors measured also the permittivity of alcohol and aceton at frequencies f_2 and f_3 and found the values of 23.8 and 20.4, respectively. Formamide at f_2 yielded a value of ϵ = 86.6. The choice of frequencies depended on the properties of materials under investigation. Tests at the f_1 frequency resulted usually in low-frequency shift. At f_4

Card 5/6

and sometimes at f_3 the authors encountered spreading of the resonance curves due to large interactions between the field and samples. The authors advise use of large field intensities ($\psi = 0$) in the case of small dielectric permittivities, and vice versa. When significant losses are present in the material under investigation one should use weak fields There are 2 figures; 1 table; and 4 references, 2 Soviet, 1 East German, 1 U.S. The U.S. reference is: G. Akerlof, O. A. Short, J. Am. Chem. Soc., 58, 1241, 1936.

ASSOCIATION: Khar'kov State University imeni A. M. Gor'kiy (Khar'kovskiy gosudarstvennyy universitet imeni A. M. Gor'kogo)

SUBMITTED: July 10, 1959

ACCESSION NR: AT4043084 S/0000/64/000/000/0412/0420

AUTHOR: Dezider'yeva, I. P., By*chkova, L. F.

TITLE: Anodic oxidation of Zn-Cd alloys in caustic soda solutions

SOURCE: Mezhvuzovskaya konferentsiya po anodnoy zashchite metallov ot korrozii. Kazan, 1961. Anodnaya zashchita metallov (Anodic protection of metals); doklady* konferentsii. Moscow, Izd-vo Mashineostroyeniye, 1964, 412-420

TOPIC TAGS: zinc, cadmium, zinc cadmium alloy, alloy anodic oxidation, caustic soda bath, passive film structural analysis, anodization process pattern, current consumption analysis, zinc content effect, anodic passivation, corrosion

ABSTRACT: The report covers a galvanometric study of anodic passivation of Cd, Zn and their alloys (25, 50 or 83% Cd) in a 1N solution of NaOH at 25C and current densities of 0.2-0.4 ma/cm^2, and an electron diffraction analysis of the structure of the passive film. Results of the latter were inconclusive. Potential-time curves were plotted and indicate two stages in anodic polarization of Cd prior to oxygen evolution (dissolution of

Card 1/2

ACCESSION NR: AT4043084

Cd with formation of $CD(OH)_2$ and oxidation of Cd in phase film pores). Anodic passivation of Zn under the described conditions occurs only at certain concentrations of zincate, and then it is analogous to the oxidation of Cd. The ϕ-τ curves for Zn-Cd alloys show several stages, reflecting successive oxidation of the constituents. The amount of electricity required for passivation increases with Zn content for a constant electrolyte compositon, mean values being 0.06 ± 0.01 coulombs/cm^2 for Cd, 13 ± 2 for Zn, and 0.16 ± 0.2, 0.5 ± 0.1 and 10 ± 2 for alloys with 83, 50 and 25% Cd, respectively. Orig. art. has: 5 graphs.

ASSOCIATION: none.

SUBMITTED: 13Mary64 ENCL: 00

SUB CODE: MM NO REF SOV: 008 OTHER: 005

Card 2/2

BYCHKOVA, M. A.

PA 38/49T39

USSR/Engineering
Power Plant, Electric
Carbon Dioxide Equipment

Mar 49

"Preparing and Testing Gas Analyzers of the L. K. Yakimova System," M. A. Bychkova, Engr, 1 p

"Elek Stants" No 3

Diagram and description of new CO_2 detector for turbines in thermoelectric power stations. Up to Jul 48, 11 had been produced, and 100 more were slated for production.

38/49T39

KLEYTMAN, Ye.I.; STETKEVICH, A.A.; YEROFEYEV, V.S.; BYCHKOVA, M.A.

Effect of polyvalent bacterial preparations on the phagocytic activity of the blood in horses. Trudy TomNIIVS 14:169-175 '63. (MIRA 17:7)

1. Tomskiy nauchno-issledovatel'skiy institut vaktsin i syvorotok.

BYCHKOVA, M.A.

Study of the incidence of disease among machinery operators of machine-tractor stations in Tomsk Province. Zdrav.Ros.Feder. 4 no.2:19-23 F '60. (MIRA 13:5)

1. Iz kafedry organizatsii zdravookhraneniya i istorii meditsiny (zav. - prof. N.P. Fedotov) Tomskogo meditsinskogo instituta.
(TOMSK PROVINCE--AGRICULTURAL LABORERS--DISEASES AND HYGIENE)

SAVITSKIY, Ye.M.; BARON, V.V.; BYCHKOVA, M.I.

Interaction of niobium with molybdenum and silicon. Trudy Inst. met. no.12:179-188 '63. (MIRA 16:6)

(Niobium-molybdenum-silicon alloys—Metallography)
(Phase rule and equilibrium)

ACCESSION NR: AT4009500 S/2509/63/000/014/0139/0146

AUTHOR: Savitskiy, Ye. M.; Baron, V. V.; Yefimov, Yu. V.; By*chkova, M. I.

TITLE: Interaction of niobium and vanadium with magnesium

SOURCE: AN SSSR. Institut metallurgii. Trudy*, no. 14, 1963. Metallurgiya, metallovedeniya, fiziko-mekhanicheskiye metody* issledovaniya, 139-146

TOPIC TAGS: niobium, vanadium, magnesium, binary alloy, niobium purification, vanadium purification.

ABSTRACT: Of the three metals in group V of the periodic table, most attention, at present, is being given to niobium and vanadium. These metals are quite pliable in the pure state, but their properties are markedly affected by traces of C, N, O or H. Their purification is therefore unusually important, and one of the most promising techniques for their purification is reduction of their oxides or nitrides with an active element such as Mg. The present investigation concerned the interaction of vanadium and niobium with magnesium. On the basis of studies of the macro- and micro-structure, X-ray and thermal analysis, as well as hardness and micro-hardness determinations, the phase diagrams of the V-Mg and Nb-Mg systems could be plotted. Both systems showed immiscibility in the liquid and solid states, including practically the entire concentration range. Very narrow

Card 1/2

ACCESSION NR: AT4009500

areas of solid solutions are formed on the vanadium and niobium sides. The solubility limit of magnesium in vanadium and niobium at 20C is 0.01 and 0.04%, respectively; at the monotectic temperature (1860C for V-Mg and 2380C for Nb-Mg), the corresponding figures are 0.03-0.04 and 0.05%, respectively. This does not significantly affect the structure of V and Nb. Vanadium and niobium do not dissolve in solid magnesium. In liquid Mg the solubility of vanadium at 660C is 0.06%, increasing to 0.3% at 950C, while the solubility of niobium in magnesium at 1200C is 0.05%. Melting with magnesium leads to reduction of vanadium and niobium, lowering their strength and hardness and increasing their plasticity. However, reduction of vanadium and niobium is hampered by the high vapor pressure of magnesium and the difficulty of removing the slag. Orig. art. has: 3 figures and 3 tables.

ASSOCIATION: Institut metallurgii AN SSSR (Metallurgical Institute, AN SSSR)

SUBMITTED: 00 DATE ACQ: 25Jan64 ENCL: 00

SUB CODE: MM NO REF SOV: 006 OTHER: 006

Card 2/2

SAVITSKIY, Ye.M.; BARON, V.V.; KARASIK, V.R.; AKHMEDOV, S.Sh.; PAKHOMOV, V.Ya.; BYCHKOVA, M.I.

Producing a high magnetic field with the aid of a niobium-zirconium alloy. Prib. i tekh. eksp. 8 no.1:182-183 Ja-F '63. (MIRA 16:5)

1. Fizicheskiy institut AN SSSR.
(Magnetic fields) (Niobium-zirconium alloys)

L 52705-65 EWT(m)/EWP(w)/EPF(c)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(b)/EWA(c) Pu-4
IJP(c) JD/JG/WB
ACCESSION NR: AP5013120 UR/0370/65/000/002/0159/0166
669.017.13

AUTHOR: Savitskiy, Ye. M. (Moscow, L'vov); Baron, V. V. (Moscow, L'vov); Bychkova, M. I. (Moscow, L'vov); Bakuta, S. A. (Moscow, L'vov); Gladyshevskiy, Ye. I. (Moscow, L'vov)

TITLE: Phase diagram and certain properties of alloys of the Nb-Mo-Si system

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1965, 159-166

TOPIC TAGS: niobium alloy, molybdenum containing alloy, silicon containing alloy, alloy phase composition, alloy structure, alloy hardness, alloy oxidation resistance, alloy oxidation, alloy property

ABSTRACT: The phase composition and oxidation resistance of 11? alloys of the Nb-Mo-Si system have been investigated. The composition of the alloys tested corresponded to the $NbSi_2$-$MoSi_2$, NbSi-MoSi, Nb_5Si_3-Mo_5Si_3, Nb_3Si-Mo_3Si, Nb-$MoSi_2$, Mo-$NbSi_2$, and (Nb, Mo)-Si sections of the ternary diagram. No ternary compounds were found in the system.

Card 1/3

L 52705-65
ACCESSION NR: AP5013120

The $NbSi_2$ and $MoSi_2$ disilicides form a quasi-binary eutectic-type system with a limited solubility of the components; $NbSi_2$ dissolved 24 at% Mo (72 mol% $MoSi_2$) and $MoSi_2$ dissolved 3 at% Nb (about 9 mol% $NbSi_2$). Between the high-temperature modification β-Nb_5Si_3 and the Mo_5Si_3 occurs a mutual isomorphous substitution of Nb and Mo atoms in the lattice of the compounds in the entire concentration range. In annealed alloys the Nb_5Si_3 compound was in the form of a low-temperature modification α-Nb_5Si_3. At 800C, there are limited solid solutions: α-Nb_5Si_3 containing about 2 mol% Mo_5Si_3, and Mo_5Si_3 containing 60 at% Nb (96 mol% Nb_5Si_3). The Mo_3Si compound dissolves up to 20 at% Nb. The Nb_4Si compound was found to exist in pure form and also in equilibrium with a Nb-base solid solution in the cast and annealed alloys. The Nb_4Si compound dissolved little or no Mo, and does not form at an Mo-content higher than 4 at%. In $NbSi_2$-$MoSi_2$ alloys the hardness of the $NbSi_2$ compound varied from 460 to 800 kg/mm^2. The high-temperature modification of the Nb_5Si_3 compound had a hardness of 840 kg/mm^2; the low-temperature modification had the highest hardness — 1100 kg/mm^2. The oxidation resist-

Card 2/3

L 52705-65
ACCESSION NR: AP5013120

ance of the $NbSi_2$ compound increased with additions of up to 5 at% Mo. The $MoSi_2$ compound alloyed with 0.5 wt% Nb had the highest oxidation resistance; in air at 1200C its weight gain was 0.05 $mg/cm^2 \cdot hr$. Orig. art. has: 6 figures and 2 tables. [MS]

ASSOCIATION: none

SUBMITTED: 16Sep64 ENCL: 00 SUB CODE: MM

NO REF SOV: 007 OTHER: 012 ATD PRESS: 4012

OR

Card 3/3

L 3503[illegible]-65 EWT(d)/EWT(m)/EPF(n)-2/EWA(d)/EWP(v)/EWP(k)/EWP(h) EWP(t) IJP(c) JD/WW/JGB/0286/65/000/004/0018/0018

ACCESSION NR: AP5007362 Pf-4/Pu-4

AUTHOR: Savitskiy, Ye. M.; Baron, V. V.; Pakhomov, V. Ya.; Rychkova, M. I.; Karasik, V. R. B

TITLE: Method of manufacturing niobium-zirconium-alloy wire. Class 7, No. 168250

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 18

TOPIC TAGS: niobium alloy, zirconium alloy, wire, wire manufacture

ABSTRACT: This Author Certificate introduces a method for manufacturing Nb-Zr-alloy wire containing from 0 to 50% Zr. To obtain a high reduction (99.97% at room temperature) and high characteristics of superconductivity, the alloy ingot is preforged or extruded in vacuum, in a protective atmosphere, or in a protective metal envelope at 1000—1500C. The billet is then annealed and quenched, [illegible] or forged in a rotary-forging machine, annealed at 800C, and quenched and cold drawn. [AZ]

ASSOCIATION: none

SUBMITTED: 08Jan62 ENCL: 00 SUB CODE: IE, MM

NO REF SOV: 000 OTHER: 000 ATD PRESS: 3215

Card 1/1

L 38550-66 EWT(m)/T/EWP(w)/EWP(t)/ETI IJP(c) JD/JG/GD

ACC NR: AT6014749 SOURCE CODE: UR/0000/65/000/000/0053/0058

AUTHORS: Baron, V. V. (Candidate of technical sciences); Savitskiy, Ye. M. (Doctor of chemical sciences); Bychkova, M. I.

ORG: none

TITLE: The superconducting properties of niobium-titanium alloys and the effect of alloy additions on the critical current density

SOURCE: Soveshchaniye po metallovedeniyu i metallofizike sverkhprovodnikov. 1st, 1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics of metals in superconductors); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 53-58

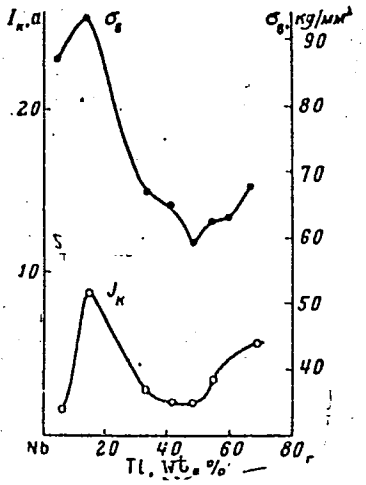
TOPIC TAGS: superconductivity, superconducting alloy, niobium base alloy, titanium containing alloy, tensile strength, critical magnetic field, ~~critical~~ current density

ABSTRACT: The critical current density of niobium alloys with titanium of varying composition (5.5, 14.8, 32.6, 48.8, 55.61, and 68% Ti) is studied as a function of the applied magnetic field strength. The effect of small admixtures (0.2—0.5%) on the critical current density and the mechanical properties of the alloys is also studied. Certain elements of subgroups IIIB, IV, and VIA of the periodic system were used as the alloying admixtures. The ingots were smelted in an electric-arc furnace in a helium atmosphere. The starting materials were niobium with a purity

Card 1/3

of 99.8% and titanium iodide. The obtained ingots were cut into squares of 1.3 x 1.3 mm and were drawn to a diameter of 0.25 mm. The tensile strength and electric resistance were measured. The superconductivity transition temperature and critical current density were measured in fields of from 0 to 21.2 koe (see Fig. 1).

Fig. 1. Critical current and tensile strength of alloys of Nb--Ti system as functions of composition for maximum field of 21.5 koe.



The maximum superconductivity transition temperature (10.5K) was found in the

ACC NR: AT6014749

alloys with 32.6% Ti (see Fig. 2).

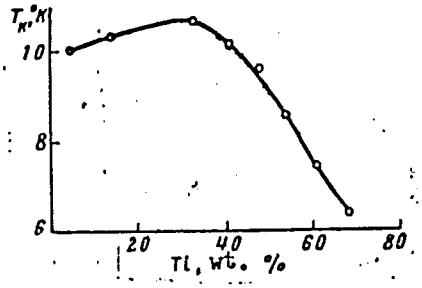


Fig. 2. Superconductivity transition temperature of alloys of Nb—Ti system as function of titanium concentration.

It was determined that the effect of alloy components in concentrations to 0.5% on the transition temperature was negligible. Orig. art. has: 8 graphs and 1 diagram.

SUB CODE: 11, 20/ SUBM DATE: 23Dec65/ ORIG REF: 004/ OTH REF: 007

AP6034435 (A) SOURCE CODE: UR/0000/66/000/000/0030/0034

AUTHOR: Bychkova, M. I.; Baron, V. V.; Savitskiy, Ye. M.

ORG: none

TITLE: Fusibility diagram of the niobium-tungsten-titanium system and some properties of its alloys

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh splavov (Properties and application of heat resistant alloys). Moscow, Izd-vo Nauka, 1966, 30-34

TOPIC TAGS: heat of fusion, niobium containing alloy, tungsten containing alloy, titanium containing alloy

ABSTRACT: The article reports the results of an investigation of 70 alloys of the given system. Of these, 17 were binary alloys. In the ternary region, the alloys were investigated with respect to six radiation cross sections. Chemical analysis of the alloys showed that in certain cases, due to losses of titanium, the composition of the alloys did not correspond to the cross section. As a result of microstructural, x ray, and thermal analysis, and of measurements of the microhardness, it was established that at 1000°, addition of niobium to alloys of tungsten and titanium contracts the two-phase region, which is a mixture of two solid solutions based on

Card 1/2

ACC NR: AT6034435

tungsten and titanium. The two-phase region extends up to 50 weight percent niobium. The article gives a diagram of an isothermal cross section at 1000°C for alloys of the niobium-tungsten-titanium system. Experimental data on the heat resistance of the various alloys is presented in a series of curves. In general, as a result of the investigation, it was established that in the niobium-tungsten-titanium system above 1000° there are formed a wide region of ternary solid solutions β and a two-phase region ($\beta_{Ti} + \beta_{W}$). Many of the alloys have a melting point above 2200°. With a tungsten content of 30-40%, up to 25% titanium can be introduced into the alloys without lowering the melting point below 2200°. Therefore, some of these alloys have sufficiently good heat resistance for industrial application (30% W and 7-10% Ti). Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: 10Jun66/ ORIG REF: 005/ OTH REF: 007

Card 2/2

S/080/62/035/004/017/022
D244/D301

11.0140

AUTHORS: Bychkova, M. K., Gavrilov, B. G., Gulin, Ye. I. and Lesnikov, A. P.

TITLE: Pre-flame conversion of hydrocarbons in diesel engines at the critical stages of compression

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 4, 1962, 892-896

TEXT: The authors investigated pre-flame reactions in compression ignition engines. The following fuels were used: ГВ (GV)-vacuum gas oil, ЛКГ (LKG)-light catalytic gas oil, ДС (DS)-special diesel fuel, ТС-1 (TS-1) fuel for reaction engines, ДЛ (DL)-summer diesel fuel, ИМН (IMN)-isomethane-naphthene hydrocarbons, n-cetane, α-methyl naphthalene, undecane and dodecane. The experiments were conducted in a standard engine ИТ9-3 (IT9-3). Samples of condensed gases from the combustion chamber were extracted into a Bunsen flask attached to a side tube fixed to the exhaust pipe. The condensate was analyzed for unsaturated and oxygen-containing compounds of all types. In all experiments the main pre-flame conversion process was the

Card 1/3

destruction of hydrocarbon molecules under the influence of heat of compression, accompanied by the formation of unsaturated hydrocarbons. The final conversion depended on the hydrocarbon composition of the fuels and in particular on their content of normal hydrocarbons. Isomethane-naphthene hydrocarbons were converted to a much smaller extent than the normal hydrocarbons. The latter gave a large quantity of unsaturated compounds and oxidation products at relatively small degrees of compression and low temperatures. Exceptional stability was shown by α-methyl naphthalene. For the normal hydrocarbons the stability decreased with their molecular weight. For all fuels the conversion reactions took place in the gaseous phase. In the pre-flame period the degree of fuel conversion was directly proportional to its vapor pressure in the combustion chamber. There are 1 table and 13 references: 8 Soviet-bloc and 5 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: E. Retaillian, M. Richerds and C. Jones, Am. Scient., 39, 656, (1951); M. Corzilius, D. Duggs and D. Pastell, S. A. E., 61 (1953); P. Garner, Fuel, 25, (1953); M. Eliot,

S/080/62/035/004/017/022
D244/D301

R. Davis and R. Friedel, III World Petroleum Congress, Section VII, (1951).

SUBMITTED: November 1, 1960

Card 3/3

SHARF, V.Z.; FREYDLIN, L.Kh.; OPARINA, G.K.; KHEYFETS, V.I.; BYCHKOVA, M.K.; KOPYLEVICH, G.M.; YAKUBENOK, V.V.

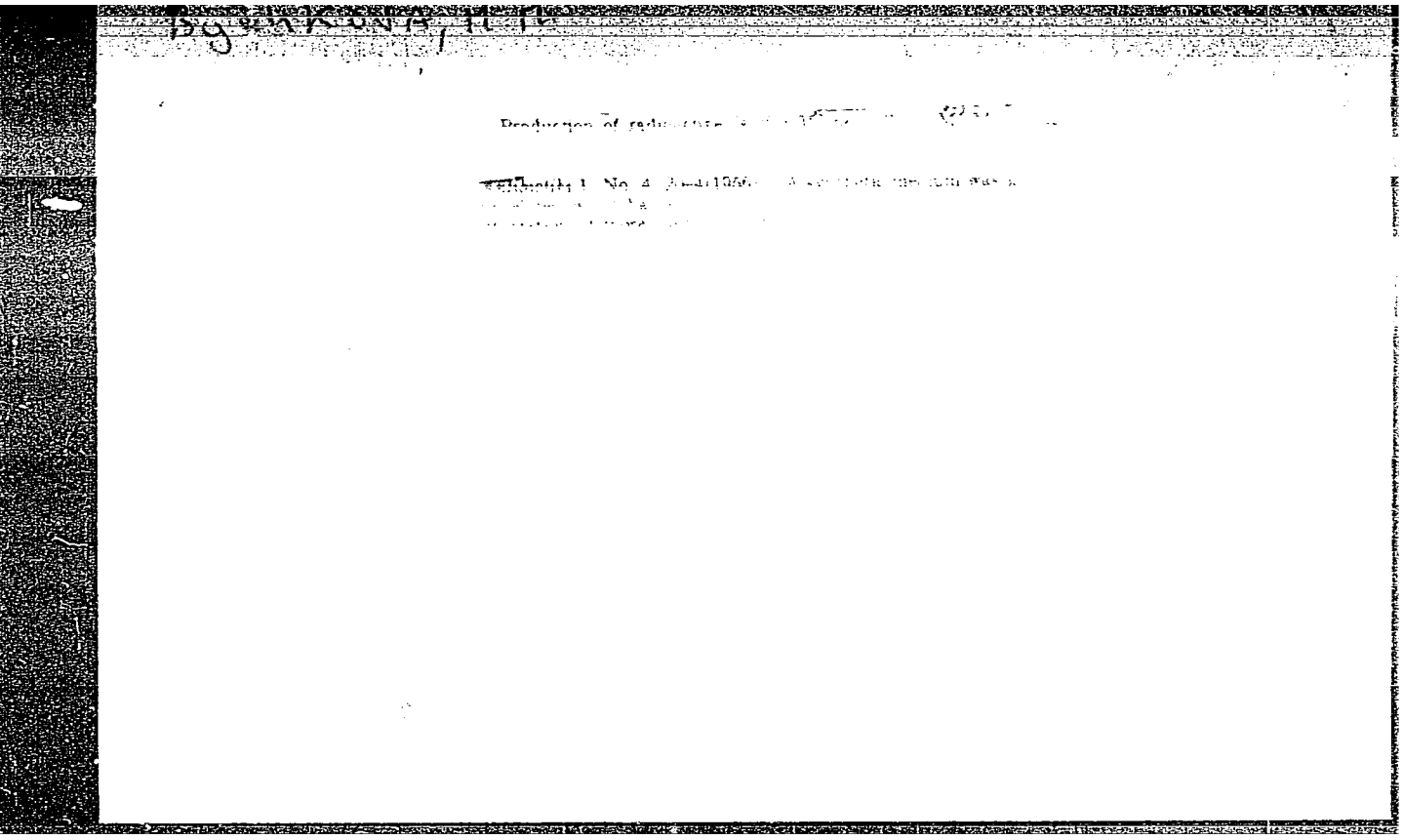
Production of isoprene from formaldehyde and isobutylene via 3-methyl-1,3-butanediol. Izv. AN SSSR. Ser. khim. no.9:1663-1665 '65. (MIRA 18:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR i Opytno-konstruktorskoye byuro sinteticheskikh produktov Priokskogo soveta narodnogo khozyaystva, Tula.

CHAYKOVSKAYA, S.M.; TEBYAKINA, A.Ye.; BYCHKOVA, M.M.; ISAYEVA, G.K.

Penicillinase formation by Bacillus cereus 5/B strains under submerged fermentation conditions. Antibiotiki 9 no.2:121-126 F '64. (MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.



LEVITOV, M.M.; GERMANOVA, K.I.; TOVAROVA, I.I.; BYCHKOVA, M.M.; LUR'YE, L.M.; MIKHEYENKOV, P.S.

Physiological characteristics of various strains of Penicillium chrysogenum; effect of the composition of the medium and of fermentation conditions on penicillin synthesis by strains New Type 24, Hybrid-31 and B-51-20. Antibiotiki 3 no.2:3-7 Mr-Ap '58. (MIRA 12:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(PENICILLIUM, culture,
chrysogenum, eff. of medium composition & fermentation on penicillin synthesis by various strains (Rus))

SEMENOVA, V.A.; SOLOV'YEVA, N.K.; RUYANOVSKAYA, I.S.; DMITRIYEVA, V.S.; TRAKHTENBERG, D.M.; RODIONOVSKAYA, E.I.; CHERENKOVA, L.V.; KHOKHLOV, A.S.; BYCHKOVA, M.M.; GINZBURG, G.N.

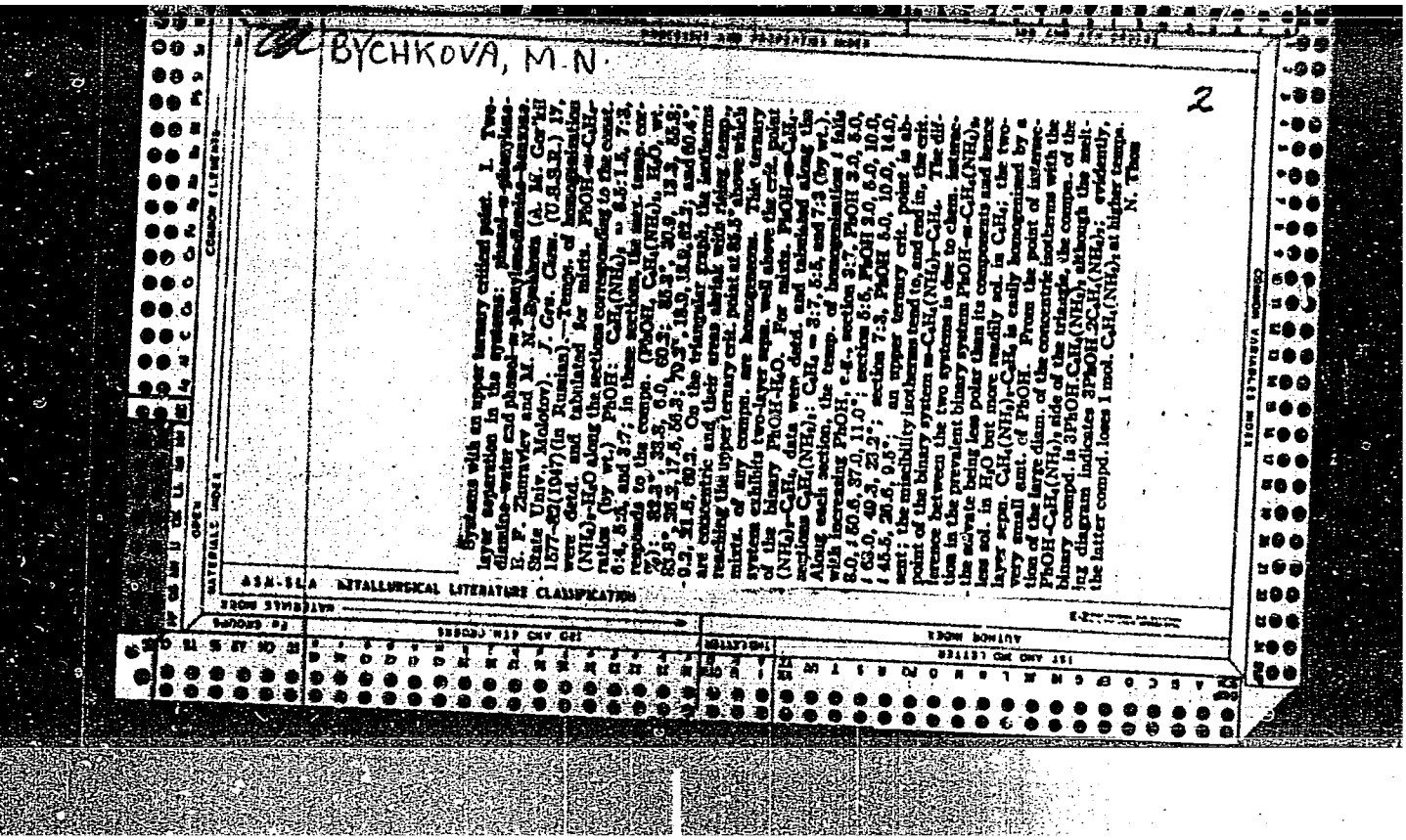
Antibiotic phytobacteriomycin, effective in controlling bacteriosis in plants. Trudy Vses. inst. sel'khoz. mikrobiol. 17:131-139 '60. (MIRA 15:3)

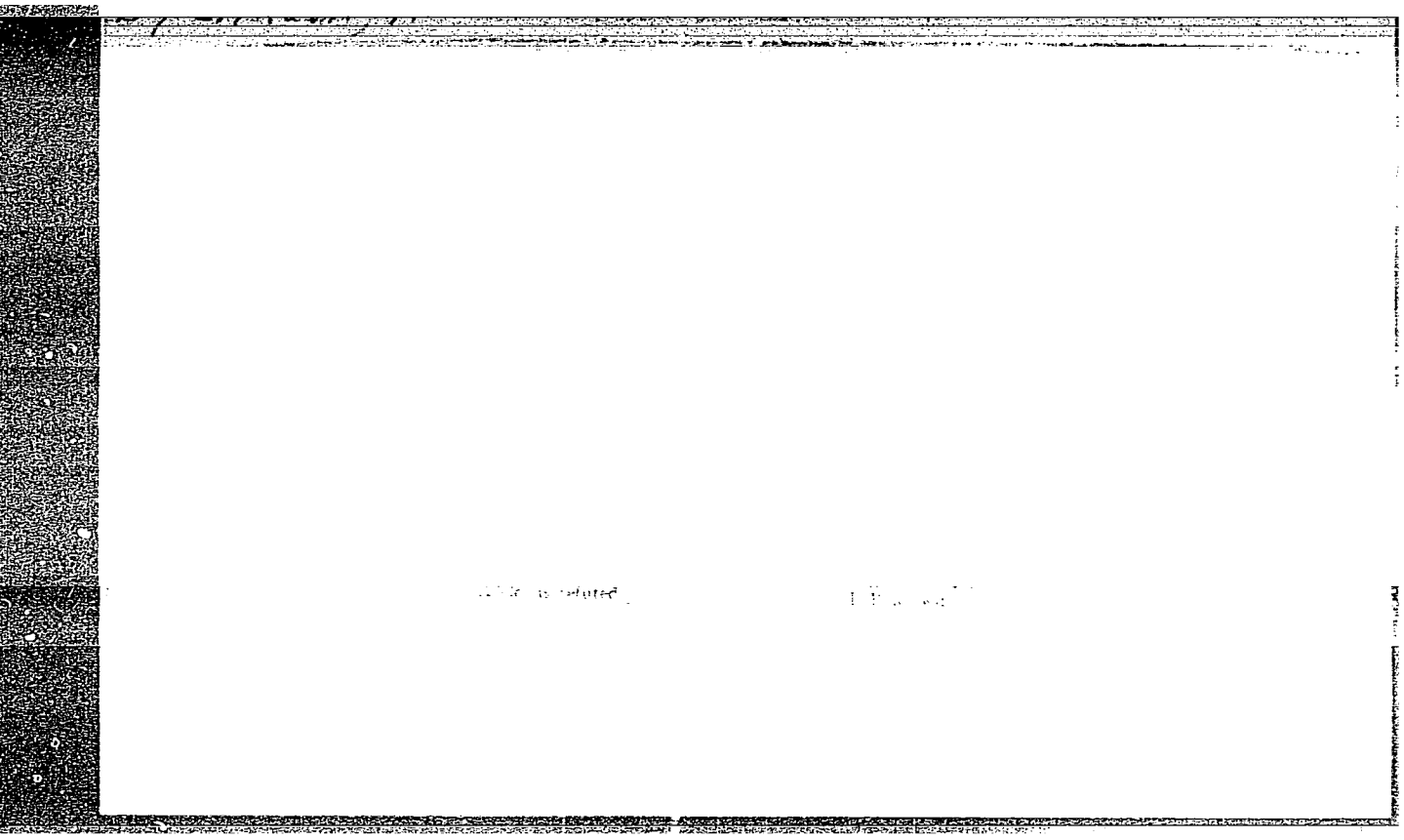
(Antibiotics) (Bacteria, Phytopathogenic)

RUDAYA, S.M.; SOLOV'YEVA, N.K.; ROZENFEL'D, G.S.; KHOKHLOV, A.S.
BYCHKOVA, M.M.

Formation, isolation and primary chemical purification of antibiotic no. 660-15, related to albofungin. Antibiotiki 8 no.2:99-103 F'63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov i Institut khimii prirodnykh soyedineniy AN SSSR.
(ANTIBIOTICS) (FUNGICIDES)





APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000307830003-7"

5(2)
AUTHORS: Zhuravlev, Ye. F., Bychkova, M. N. SOV/78-4-10-30/40

TITLE: Solubility in Water - Salt Systems From Sodium Thiocyanate and Ammonium Thiocyanate

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 10, pp 2367 - 2375 (USSR)

ABSTRACT: The following systems were investigated : 1.NaCNS - NH_4CNS - H_2O, 2.NaCl - NaCNS - H_2O, 3.NH_4Cl - NH_4CNS - H_2O, 4.Na_2SO_4 - NaCNS - H_2O, 5. $(NH_4)_2SO_4$ - NH_4CNS - H_2O, 6.NaCl - NH_4CNS - H_2O and 7.NH_4Cl - NaCNS - H_2O. The investigation was carried out in the systems 1-3 and 6,7 at 5,25, and 50°, in the systems 4 and 5 at 33 and 53°. As the direct analytical determination of some components of these systems is difficult, the graphical-analytical method was used which was developed at the Chair of Inorganic Chemistry of the Permskiy universitet (Perm' University) and denoted as method of the isothermal intersections. The applicability of this method for water - salt systems was proved by R. V. Mertslin and I. L.

Card 1/2

Krupatkin (Ref 3). The results are presented in tables and figures. In all systems only the pure salt components and their crystal hydrates occur as solid phases. In the systems 4 and 5 which represent a diagonal cross section through the common system $Na^+, NH_4^+/Cl^-, CNS^-/H_2O$ an ionic exchange occurs which involves the appearance of NH_4Cl in system 4 and of NaCl in system 5 as new solid phases. There are 9 figures, 9 tables and 3 Soviet references.

ASSOCIATION: Permskiy gosudarstvennyy universitet, Laboratoriya neorganicheskoy khimii (Perm' State University, Laboratory of Inorganic Chemistry)

SUBMITTED: April 14, 1958

CHUMAKOV, M.P.; KARPOVICH, L.G.; SARMANOVA, Ye.S.; SERGEYEVA, G.I.; BYCHKOVA, M.V.; TAPUPERE, V.O.; LIBIKOVA, Ye.O.; Vayyer, V.; RZHEGACHEK, R. [Rehacek, R.]; KOZHUKH, O. [Kozuch, O.]; ERNEK,E.

Isolating from the tick Ixodes persulcatus and from sick persons in Western Siberia a virus differing from the pathogen of tick-borne encephalitis. Vop. virus. 8 no.1:98-99 Ja-F'63. (MIRA 16:6)

(VIRUSES) (ENCEPHALITIS--MICROBIOLOGY)

SARMANOVA, Ye.S.; IZOTOV, V.K.; PIVANOVA, G.P.; BANNOVA, G.G.; BYCHKOVA, M.V.

Hemagglutinating characteristics of Kemerovo virus. Vop. virus. 10 no. 6:663-669 N-D '65 (MIRA 19:1)

1. Institut poliomiyelita i virusnykh entsefalitov AMN SSSR, Moskva. Submitted September 7, 1964.

L 25987-66 EWT(1)/T JK

ACC NR: AP6016098 (N) SOURCE CODE: UR/0402/65/000/006/0663/0669

AUTHOR: Sarmanova, Ye. S.--Sarmanova, E. S.; Izotov, V. K.; Pivanova, G. P.; Bannova, G. G.; Bychkova, M. V.

ORG: Institute of Poliomyelitis and Viral Encephalitis, AMN SSSR, Moscow (Institut poliomiyelita i virusnykh entsefalitov AMN SSSR)

TITLE: Hemagglutinating properties of Kemerovo virus

SOURCE: Voprosy virusologii, no. 6, 1965, 663-669

TOPIC TAGS: virus, encephalitis, antigen, mouse, serum

ABSTRACT: During the spring-summer season of 1962, periodic investigation of foci of tick-borne encephalitis in Kemerovskaya Oblast resulted in the isolation of a virus producing a cytopathic effect in cell cultures of chick embryos. Strains KM-3, No 17, 32, 35, 37 were isolated from Ixodes persulcatus ticks, and strain No 98 was isolated from the blood of a healthy man bitten by a tick. In this connection, the authors present the results of an investigation of the hemagglutinating properties of Kemorovo virus, as based on tests of cultures infected with the strains named above. Antigens prepared from Kemerovo virus-containing brain tissue of suckling mice by means of the techniques used to obtain arbovirus antigens failed to agglutinate goose erythrocytes in the presence of pH = 5.7-7.4. The allantoic

Card 1/2 UDC: 576.858.25.097.34

L 25987-66

ACC NR: AP6016098

fluid of virus-infected chick embryos displayed hemagglutinating activity for from 14 to 40 hours following infection. Hemagglutinating activity was also detected in the cultural medium of infected chick embryo tissue and continuous swine embryo kidney cultures. The hemagglutination titers of allantoic fluid were 1:128 to 1:2,048. The specificity of the hemagglutination reaction was proved by hemagglutination-inhibition reaction with sera of guinea pigs immunized with Kemerovo virus. (To eliminate nonspecific inhibitors, the sera were treated with a 25% kaolin suspension.) Thus it can be definitely established that the investigated strains of Kemerovo virus are closely interrelated and similar from the antigenic standpoint. Orig. art. has: 7 tables. [JPRS]

SUB CODE: 06 / SUBM DATE: 07Sep64 / ORIG REF: 002 / OTH REF: 001

Card 2/2